

(email sent out to current members of the Emission Inventory Subcommittee on 5/20/03)

Members of the Emission Inventory Subcommittee:

As promised at the April 8 meeting of the Agricultural Advisory Committee for Air Quality, attached for your review are revised growth forecasting and agricultural emissions estimation methodologies. The major changes to each of the methodologies are summarized below. Following your review, we would be happy to have a conference call to discuss any questions you may have about the revised methodologies. At the suggestion of Jason Baldwin, we are polling the Committee to determine whether there is interest in having such a conference call. Please contact Mike FitzGibbon at mfitzgib@arb.ca.gov or (916) 445-6243 if you would like us to schedule a Committee conference call.

1. Growth and emissions forecasting:

ARB staff have applied the -0.3% annual growth factor to the following agricultural emission sources in the San Joaquin Valley: farm equipment, agricultural burning, agricultural irrigation pumps, pesticides, and a variety of PM categories (including harvesting and land preparation, etc.). We have also developed growth rates for other agricultural areas of the state and have proposed to local air district staff that these be used for the agricultural emission sources listed above. Air district staff are currently reviewing the proposed growth rates for their districts and should be providing us with feedback within the next week.

2. Agricultural irrigation pumps:

Working closely with San Joaquin Valley UAPCD staff, we have made a number of significant changes to this methodology. The District has increased the population of diesel-fueled pumps in the SJV from 2830 to 4500 to reflect the 2250 Moyer Program applications received to date. Although the number of pumps has increased significantly, the total emissions of ROG and NOx in the base year (1999) are less than previously estimated due to changes in the assumptions about operating hours and emission factors. Previously, we assumed the diesel-fueled ag irrigation pumps were operated 2300 hours per year based on survey information collected by STI in 1995. Now, based on the Moyer Program applications, we assume the retrofitted pumps to operate 1500 hours per year and the remaining population of old pumps to operate only 1000 hours per year. Previously, we used AP-42 emission factors compiled by STI in 1996 that reflected a population of old pumps. The revised emission inventory explicitly accounts for the cleaner engines introduced through the Moyer Program. We have also revised the surrogate used in forecasting emissions for ag irrigation pumps. We are now using irrigated crop acreage, which is consistent with the surrogate being used for many of the other ag categories, and results in a 3% decline in emissions between 1999 and 2010 instead of the 25% increase previously assumed.

3. Agricultural burning:

We have worked with the SJV district staff to ensure that the baseline emission estimates for agricultural burning are correct. We have updated Attachment 6 "Methods for Estimating Emissions from Agricultural Burning" to include a better description of what crops and how many acres are burned. We have provided a better description of the studies on which the emission factors are based. We have also included a line item to describe how much agricultural waste goes to biomass facilities (in coordination with Matt Summers from CDFA).

4. Pesticides:

Based on discussions with our DPR counterparts, we have identified and corrected an error in the temporal profile for pesticides. This does not affect the annual estimates of pesticide emissions but has implications for our seasonal (i.e. summer) estimates of ROG emissions, both for the base year (1999) and future years. We realized that the previous temporal profile (Table 1) reflected monthly application of pesticides, not monthly emissions. Based on our previous estimates, 56% of the pesticide ROG emissions occurred in the summer. The corrected temporal profile indicates that 49% of the pesticide ROG emissions occur in the summer. The revised temporal profile results in lower summer emissions for both the base year and future years (note that the annual emissions are unchanged). Specifically, the base year (1999) summer ROG emissions for pesticides decrease from 31.7 to 26.5 tons per day while the 2010 projected summer ROG emissions decrease from

26.8 to 23.0 tons per day.

If you have any questions, please contact Bob Fletcher, Chief of the Planning and Technical Support Division at (916) 322-5350.